REMARKS

Counsel thanks Examiner Edelman and Primary Examiner Dinh for the courtesy of an interview held on November 28, 2000. This amendment is consistent with the discussion that took place on November 28, 2000, and adds limitations discussed during the interview. Accordingly, this amendment should be entered under Rule 116 as it raises no new issues and requires no further search.

Claims 1-5, 7 and 9-15 are in the application. Claims 1 and 11-13 have been amended to include limitations of claims 6 and 8, now deleted. Claims 14 and 15 have been added to provide Applicant with the scope of protection to which they are believed entitled.

Claims 1-5, 7 and 9-13 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Sumimoto (U.S. Pat. No. 5,522,070) in view of Hauser et al. (U.S. Pat. No. 5,889,956). Claims 6 and 8 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Sumimoto in view of Hauser, and further in view of Culbert (U.S. Patent No. 5,838,968). Applicant will address the rejections all together.

By this paper, independent claim 1, as well as independent claims 11-13, have been amended to incorporate limitations of both claims 6 and 8. Amended claim 1 is now directed to a method of allocating network resources on a computer network. The method comprises a step of monitoring at least two nodes on the computer network among at least a first process and a second process for allocation of computer resources on each of the at least two nodes. Each of the at least two processes are assigned a priority so as the second process is assigned a lower priority than the first process. For the first process running on at least one of the two nodes, a minimum resource allocation is set for the first process independent of the computer resources needed by other processes running on the computer network. If network resources become insufficient, computer resources on the network are redistributed so that the first process is provided the minimum resource allocation.

The present invention actually provides for a method and apparatus for allocating and switching network resources based on dynamic workload changes, in which processes or groups of processes having high priority are almost always allocated a minimum amount of required network resources. Therefore, a problematic situation of the known prior art, in which a lower

priority process may have network resources automatically reallocated thereto while such resources should more preferably be reallocated to higher priority process or group of processes, can be avoided. *See* page 2 lines 20-23 and 25-28 of the specification. None of the applied patents ensure that a particular process of a particular level of priority will have the minimum required resources should insufficient network resources be available.

Sumimoto has been criticized in the present application, in page 2 lines 1-11 of the specification. The Sumimoto patent relates to computer resource distributing method and system according to which it is possible to allot a multiplicity of processes to a multiplicity of computers so that the amount of processing is uniform in each computer, and therefore, to end the processing at the same time or approximately the same time. *See* col. 2 lines 48-50 and col. 10 lines 34-37 of Sumimoto. The algorithm used by Sumimoto is that the process having the largest amount of processing is allotted to a computer having the largest amount of available resources. Then, the process having the second largest amount of processing is allotted to a computer having the second largest amount of available resources, and so forth. *See* col. 10 lines 18-30 of Sumimoto.

Thus, Sumimoto does not seem to allot computer resources based on priority as the present invention does. Instead, the Sumimoto scheduler allots computer resources based on an assumed or actual amount of processing required by each process. As can be seen from the above algorithm of Sumimoto, the process having the **largest amount of processing** is always allotted first with the **full** amount of processing necessary for running.

The Examiner proposed to modify the system of Sumimoto with a teaching of Hauser according to which a minimum resource allocation is always **guaranteed**. *See* col. 5 lines 4-7 of Hauser. Thus, Hauser does not seem to be concerned of a situation in which the network resource may be insufficient, as specifically recited now in claim 1. In such a situation, Hauser teaches that a minimum resource allocation is guaranteed for all entities regardless of what priority levels they may have.

The Examiner further proposed to modify the system of combined teachings of Sumimoto and Hauser by Culbert. Culbert relates to dynamic resource management between tasks in real time operating systems. In the Culbert system, when resource degradation is necessary, tasks are

degraded, i.e. the **resource requirements are lowered**, so that tasks with lower priority will always be degraded as much as possible before any high priority task. *See* col. 9 lines 24-28 of Culbert. Thus, the resource requirement can be lowered for any task regardless of the priority level of the task, only tasks with lower priority will always be degraded as much as possible before high priority tasks. Therefore, a minimum resource allocation for a particular high priority process may not be guaranteed in the Culbert system if the degradation of the high priority process serves the global optimization object of the whole system. This teaching is definitely opposite to limitations recited in claim 1.

In view of the above discussion, Applicant respectfully submits that at least Culbert teaches away from the proposed combination with Sumimoto and Hauser. In a situation of insufficient computer resources, the Sumimoto system would still allot the process of large amount of processing first while Culbert specifically requires that the priority be given to critical processes which are not necessarily of a type requiring a large amount of resources. *See* col. 3, lines 5-8 of Culbert. These teachings apparently run counter to each other, and modifying Sumimoto with the teachings of Culbert will change the principle of operation of the former. Therefore the combination is improper and the invention as claimed in claim 1 is non-obvious over the reference as applied by the Examiner.

Furthermore, Culbert also teaches away from the combination with Hauser. Hauser specifically requires that a minimum resource allocation is guaranteed for every process while Culbert teaches that the resource requirement can be lowered in exchange for a global optimization. Therefore the combination is improper and the invention as claimed in claim 1 is non-obvious over the reference as applied by the Examiner.

Accordingly, Applicant respectfully submit that claims 1, 11-13 as well as dependent claims 2-5, 9-10 and new claims 14-15 are patentable over the applied art of record.

Claims 14-15 are also patentable over the applied references on their own merits since these claims recite other features of the invention which are neither disclosed, taught nor suggested by the applied references.

As to claim 14, none of the references teach how to redistributing the computer resources, as specifically recited in claim 14.

As to claim 15, this claim specifically recites that the priority of resource allocation in the network is assigned based not on amount of processing as taught by Sumimoto.

Each of the Examiner's rejections has been traversed. Accordingly, Applicant respectfully submits that all claims are now in condition for allowance. Early and favorable indication of allowance through an advisory action is respectfully requested.

The Examiner is invited to telephone the undersigned, Applicants' attorney of record, to facilitate advancement of the present application.

Respectfully submitted,

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